

REMARKS

Claims 1-11 and 15-20 are pending in the current application.

Claims 11, 15, 16 and 20 are amended as discussed further below.

Rejections under 35 U.S.C. §112

Claim 16 is rejected under 35 U.S.C. §112, first paragraph, as containing new matter. It is asserted in the office action that support is lacking for the amendment to variable Y. Applicants respectfully traverse this rejection.

At page 10, lines 8-14 of the specification it is explained that “Y is a radical containing at least one double bond that is polymerisable by electromagnetic radiation and is formed by modelling the proton from the isocyanate-reactive functional group of this radical. The term isocyanate-reactive functional group refers to alcohol (-OH), amine (NH) or thiol (SH) groups. ...in a particular embodiment they [the isocyanate-reactive functional groups] include alcohol groups.”

Therefore, the radical formed by modelling (removing) the proton from the alcohol group is –OR, where R would be the radical containing at least one double bond polymerisable by electromagnetic radiation. This would be understood by one skilled in the art. Applicants respectfully submit that there is adequate support for the amendment to Claim 16 and that no new matter is presented.

Claims 1-11 and 15-20 are rejected under 35 U.S.C. §112, second paragraph, as indefinite for the use of various terms. Applicants respectfully traverse this rejection.

Claims 1 and 16 are said to be unclear in regard to whether “containing at least one allophanate group” and “containing at least one oxadiazinetrione group” refers to both the polyisocyanate product and polyisocyanate secondary product or only the polyisocyanate secondary product. Applicants respectfully submit that the claim is clear as written, and is not indefinite. An object of the present invention is to produce allophanate-containing materials, and it would make no sense to state in the claim that only the polyisocyanate secondary products contained these groups and the polyisocyanates did not. Similarly, since the method of the present invention involves the reaction of an oxadiazinetrione group in the polyisocyanate or polyisocyanate secondary product with alcohol, it would make no sense to propose

that one of these contained the oxadiazinetrione group and the other did not. This would be understood by one skilled in the art. Moreover, at numerous places in the specification it is stated that the products of the present invention, whether they be polyisocyanates or polyisocyanate secondary products, contain at least one allophanate, and that the starting materials contain at least one oxadiazinetrione group. See, e.g., the specification at page 6, lines 6-8; page 8 lines 21-22; and page 12 lines 14-15.

Applicants have removed the term "small amounts" and changed "can be" to "are" in Claim 16, thus rendering objections to this language moot. Applicants have also amended Claim 16 to clarify that A is a radical derived from the isocyanate or isocyanate secondary products. No new matter is added by this amendment; one skilled in the art would understand, based on the description of the starting materials, that this language was intended.

Claim 11 is amended to clarify that when polyisocyanates are produced (i.e., the starting materials are polyisocyanates and not polyisocyanate secondary products), the product of the present invention has the claimed weight percentages. Support for these weight percents is found at page 8, lines 15-19. Applicants respectfully submit that Claims 1-11 and 15-20 meet all requirements of §112 of the statute; accordingly, all §112 rejections should be withdrawn.

Rejection under 35 U.S.C. §102

Claims 11 and 15 - 20 are rejected under 35 U.S.C. 102(b) as anticipated by CA 2356685 ("BASF").

As reflected in Claim 11, the polyisocyanate product produced by the process of the present invention comprises 2-35 wt.% allophanate groups, 0.1-5 wt.% uretdione groups, 0-5 wt.% oxadiazinetrione groups and 0.1-25 wt.% urethane groups. These ranges result in the product when isocyanate starting materials are used. When the starting materials are uretdiones, urethanes, ureas, isocyanurates, allophanates, biurets or other nucleophilic addition products of isocyanates, then the weight % of the particular group will be higher, depending on the starting material used.

The BASF reference does not teach an polyisocyanate product having the ranges of allophanate, uretdione, oxadiazinetrione and urethane groups in the end product, as recited in Claim 11, and therefore does not anticipate Claims 11 and 15-20. Moreover, BASF uses a different process to produce the polyisocyanates disclosed therein, and thus the process of BASF cannot inherently result in the products produced by the present invention, as recited in Claim 11. At page 4, lines 6-8, the BASF reference states that the compounds of that invention are essentially free from uretdione, biuret or isocyanurate groups. The BASF reference does not describe the use of any starting material other than customary aliphatic or aromatic di- or polyisocyanates. Therefore, there is no overlap of the compounds of the present invention with the compounds disclosed in BASF.

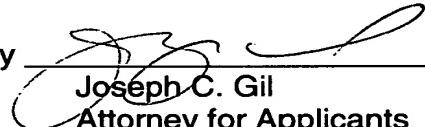
It is asserted in the Office Action that Applicants have not provided any data or evidence to support Applicants' position that BASF does not teach, explicitly or inherently, the amounts of each component recited in Claim 11. Applicants respectfully submit that the burden of proof rests with the Examiner, as set forth in the MPEP under 2112 (IV): "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The Examiner has not met his burden. Conclusory statements such as "...it would be expected that any product resulting from the reaction of isocyanates with hydroxyl functional compounds would inherently contain a quantity of urethane groups" do not provide a sufficient basis for asserting that BASF discloses 0.1-25% urethane groups. There is a similar lack of support for the assertions that BASF discloses the other amounts recited in Claim 11. There are only two places in the entire BASF disclosure that state the amounts of each component in the mixture: 1) at page 8, lines 24-29, BASF discloses mixtures comprising 5-95% isocyanate (a1), 5-60% isocyanurate (a2.1) and 0-60% urethane (a2.5); and 2) at page 10, lines 1-4, a mixture comprising 1-100% allophanate, 0-50% urethane (a2.5) and 0-90% isocyanurate (a2.1) is described. Neither mixture contains 0.1-5% uretdione groups.

As noted in MPEP 2112, "the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Applicants respectfully submit that the Examiner has not established that the amounts recited in Claim 11 are found in the BASF reference. Applicants request withdrawal of the §102 rejection.

SUMMARY

Applicants respectfully submit that all outstanding issues have been addressed, and that Claims 1-11 and 15-20 are in condition for allowance. A notice of allowance is requested at an early date.

Respectfully submitted,

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